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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/851,868	05/09/2001	Stanley W. Stephenson	82633RLO	4959

7590

07/16/2004

Thomas H. Close
Patent Legal Staff
Eastman kodak Company
343 State Street
Rochester, NY 14650-2201

EXAMINER

LIU, MING HUN

ART UNIT

PAPER NUMBER

2675

DATE MAILED: 07/16/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/851,868

Applicant(s)

STEPHENSON ET AL.

Examiner

Ming-Hun Liu

Art Unit

2675

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5-11 is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 6,118,439 to Ho et al and US Patent 6,717,561 to Pfeiffer et al.

In reference to claim 1, Ho demonstrates in figure 4, a voltage supply circuit (item 200) that supplies voltage signals to the row and column drivers. As described by Ho in column 7, lines 54-67, switches (248 and 349) are used to switch between two fixed voltages, namely Vcc and ground. The voltage divider is responsive to the selected fixed voltage and it provides one of four voltages.

The difference between Ho's invention and the applicant's invention lies in the particular type of LCD display the driving circuit is using. Ho teaches a voltage driving circuit for a LCD display but never specifically establishes the exact type of LCD. As one skilled in the art understands, cholesteric LCD displays is a well-known type of LCD display. According to Pfeiffer's background disclosure, Cholesteric displays are commonly used in simple, low power displays (column 1, lines 22-26). Furthermore as explained by Pfeiffer cholesteric displays usually involve two or more voltage levels in order to achieve the desired display state, either reflective of transmissive (column 1, lines 32-42).

One skilled in the art understands that Ho's disclosure is or a general LCD display including cholesteric. Ho's invention could have been modified to resemble the applicant's invention, if a bistable two-toned display was desired leaving the need of only two voltage levels instead of four. It would have been obvious to reduce the number of Voltage levels in Ho's invention in order to cater to the bistability requirements of a cholesteric display.

In reference to claim 2, it is apparent from the Ho's abstract and figure 4 (item 200) that the Voltage driving means is a single chip.

In reference to claim 3, it can be seen from figure 7 of Ho that the voltage divider uses resistors.

In reference to claim 4, it can be seen from figure 7 and description of the Halt signal in column 8, lines 5-10 that causes the selection of the appropriate voltages.

Allowable Subject Matter

2. Claims 5-11 are allowed.

The following is a statement of reasons for the indication of allowable subject matter: The idea of having a voltage divider that creates voltages according to switchable Vcc and ground potentials are present. Furthermore, the idea of a single voltage divider that supplies potentials to both column and row drivers is also present. However the idea of having a voltage dividing circuit for each column and row electrode has not been disclosed in prior art.

Response to Arguments

3. Applicant's arguments with respect to claims 1-4 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's arguments, filed 5/3/2004, with respect to 5-11 have been fully considered and are persuasive. The rejection of claims 5-11 has been withdrawn.

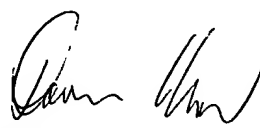
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ming-Hun Liu whose telephone number is 703-305-8488. The examiner can normally be reached on Mon-Fri.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ming-Hun Liu


DENNIS-DOON CHOW
PRIMARY EXAMINER